

**EPSON**

**(ES-300C / ES-600C / ES-800C /  
GT-6000 / GT-6500 / GT-8000)**

**Scanner Controller**

**for**

**Art Department Professional**

**Software and Manual**

**by**

**ASDG, Incorporated**

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# Chapter 1

## Introduction

**NOTE** Although this EPSON software is named EPSON\_SCAN, it can also be used with the EPSON ES-600C, ES-800C, GT-6000, and GT-8000 scanners. All references to EPSON in this manual also apply to these scanner models.

Thank you for purchasing the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner controller package for Art Department Professional, and welcome to the world of high quality 24-bit color scanning.

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 and this software become an amazing team which is one of the most powerful image rendering tools ever produced for the Commodore Amiga, or any other brand or model of personal computer.

The EPSON\_SCAN loader supports all of the features of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner including the ability to scan up to 600 dots per inch at 24 bits-per-pixel and yield astonishing and professional results in both "normal" Amiga modes of color and screen resolution and with other third party extended color display hardware available now and coming in the future.

You are to be congratulated on your wise decision to purchase this state-of-the-art scanner and software. We're sure it'll bring

you endless hours of pleasure and satisfaction.

**WARNING:** There are two versions of similar software contained within this package.

The EPSON\_SCAN Loader is intended to be used **ONLY** as an image "loader" within ASDG's Art Department Professional (ADPro) version 1.0.3 or greater, on an Amiga computer equipped with an ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner connected to the computer via the parallel port cable included with this package. This loader is **NOT** a stand-alone product. To use it you must also have purchased ADPro and have already installed ADPro on your Amiga system.

The program called EPSON\_SCAN.ToDisk is a free-standing version of the "loader" software. It is intended to be run as a separate Amiga task and does not require ownership of ADPro to run or use. If you do not currently own ADPro, then EPSON\_SCAN.ToDisk is the only one of these two versions which will be of immediate use to you.

Both of these programs are intended to provide complete control **ONLY** for the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner. They will not work with other brands or models of scanners, and they will not run correctly on any computer other than a Commodore Amiga computer.

As an image renderer, ADPro possesses an unparalleled array of sophisticated image processing tools presented in a straightforward user interface which is easily mastered. There's no long learning curve here. The EPSON\_SCAN loader, in tandem, with ADPro produces images of extraordinary quality in all Amiga video modes including native support for both the NTSC and PAL video standards.

EPSON\_SCAN.ToDisk provides all the features of the EPSON\_SCAN loader, however it **only** creates a disk file of your scanned data and does not provide any image post-processing facilities of its own.

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000, along with this software and ADPro, produces the finest images an Amiga (without extra display hardware) is capable of producing, and it does so very easily and with great speed.



## 1.1 Registration and Product Upgrades

ASDG treats the support of its products very seriously. We continually improve our products and, from time to time, make these improvements available in the form of product upgrades.

**NOTE** It is absolutely imperative that you fill out and return the registration card you received with this product. If you don't, we won't be able to reach you with information about upgrades to Art Department Professional and its related products, such as the EPSON\_SCAN loader.

Also, technical support will **not** be rendered to anyone who is not in our registered user database. So, please, send in your registration card. And remember, your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner warranty registration card should be sent directly to the address printed on it.

When filling out the registration card, be sure to include the serial number of your copy of ADPro (if you own it). ADPro's serial number can be found in the first **About** panel, which can be displayed by selecting the **About** button on the ADPro main screen. The registration card must include the serial number to be valid.

Note that if you take advantage of an upgrade offer (i.e., move from one version of EPSON to another), the new version you receive is considered to be exactly the same software as covered by your license agreement. Therefore, you may not sell, lend, lease or give away your old version as this would be an infringement upon our copyright.

## 1.2 Technical Support

ASDG provides technical support via telephone at (608) 273-6585 (Monday through Friday, 10 A.M. to 5 P.M. Central Time) and upon Portal (`go asdg`), BIX (`join asdg`), and CompuServe

(go `amigav`, then section 2). ASDG representatives occasionally stop in on GENIE and Usenet as well.

Additionally, you may send us your questions or comments in a letter to our business address:

ASDG, Incorporated  
925 Stewart Street  
Madison, WI 53713  
USA

**NOTE** Please remember that technical support cannot be rendered to anyone who is not in our registered user database.

## 1.3 Machine Requirements

To use this software the following is required:

- An Amiga 500, 1000, 1200, 2000, 2500, 3000, or 4000 (or variants of these models such as the A500P, A3000T and so on) personal computer with a mouse, keyboard, monitor, and more than one (1) megabyte of memory.
- An ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner with the interface cable included with your ASDG EPSON\_SCAN loader software package.
- ASDG's Art Department Professional, version 1.0.3 or greater (not required for the use of the stand-alone version of the scanner control software).

The following peripherals are also highly recommended for greatest satisfaction from this product:

- A hard disk drive upon which you can store your image data files.
- A MicroWay flickerFixer (or equivalent de-interlacing hardware) and a compatible monitor to reduce flicker when in interlaced display mode.

- As much RAM memory as you can comfortably afford to purchase and install in your Amiga.
- A hardware accelerator board such as Commodore's A2620 or A2630 for use in Amiga 2000 models. (It is outside the scope of this manual to detail every third party Amiga accelerator board—seek out the advice of competent reviewers or friends and associates for the accelerator appropriate to your Amiga and your budget). The processing of deep-color (24 bitplane) imagery is much faster on an accelerated Amiga.

Certain models of printers may be connected directly to your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 and allow the scanner to scan directly to the printer, completely bypassing your Amiga. This facet of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 is covered in the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual and will not be discussed here.

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 can also be interfaced to other brands and models of personal computers such as certain IBM-compatible and Macintosh computers. These computers will require different cables and software. Do not attempt to connect your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to an IBM or Macintosh computer with the cable supplied in this package. You may also safely ignore any references to a "SCSI Interface" mentioned in the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual. That information does not apply for an Amiga installation. If you own an IBM and/or Macintosh computer and wish to connect your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to it, consult your computer retailer for the appropriate cables, interfaces, and software.

### **1.3.1 Special Note To A1000 Users**

This package comes with a cable adapter appropriate to connect the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to the Amiga 500, 1200, 2000, 2500, 3000, and 4000 model computers. Owners of the Amiga 1000 computer must separately

purchase a 25 pin gender changer to mate the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 cable adapter to the Amiga 1000 parallel port.

### 1.3.2 Contiguous Memory Requirements

As indicated above, ADPro and the EPSON\_SCAN loader will make use of all the expansion memory you can provide but only if that memory is contiguous. If your expansion memory is spread over multiple boards, be sure to invoke the Commodore-supplied command **MergeMem** in your **s:startup-sequence** if you don't already do so.

If **MergeMem** is not run, you will not get the full benefit of your expanded memory, and the size and DPI resolution of the largest areas you can scan will be limited to the largest single contiguous chunk of FAST RAM memory that ADPro can find on your computer at the time you run it. The AmigaDOS **avail** command, typed at a CLI or Shell prompt will tell you the size of this largest chunk of memory in your computer, at the time you type the command.

It's to your advantage to buy as much expansion memory as your machine and your budget will allow, and to **MergeMem** it in your **startup-sequence**.

**NOTE** The EPSON\_SCAN.ToDisk version of the software does not have these memory requirements since the data it produces during a scan is written directly to a disk drive and not loaded into your Amiga's memory.

**NOTE** When using EPSON\_SCAN.ToDisk, your main concern will be that you have enough free disk space on the destination drive or hard disk partition to receive the data as it is scanned. Any references to memory requirements in this manual involve the use of the EPSON\_SCAN loader within ADPro, and not the use of EPSON\_SCAN.ToDisk.

At its highest possible resolution setting (600 DPI for the ES-300C and ES-600C, 800 DPI for the ES-800C) to scan

the full A4-sized bed of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 in 24-bit color requires over 147,000,000 bytes of contiguous FAST RAM. Don't let that number scare you. Most people would probably never have any reason to want to scan the entire bed area at 600 or 800 DPI as it would create an absolutely enormous bitmap with little utility. The highest DPI settings of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 are more useful as magnification modes, suited to filling your screen with very small areas of scanned artwork. The full bed memory requirement is reduced to about 1,000,000 bytes at the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's lowest resolution of 50 DPI, and seventeen other resolutions are offered between 50 and 600 DPI. Scanning in 8-bit grayscale instead of color will reduce by approximately half the memory requirement of any size scan at any given DPI setting.

Scanning in 1 bit-plane monochrome can reduce memory requirements to  $\frac{1}{16}$  of that of scanning in gray scale. The reason we say "can" is that if you have enough memory available, the 1 bit data will be converted into 8 bit gray data. If you don't have enough memory available, the 1 bit-plane data will not be converted; you do get a memory savings allowing bigger scans, but you can operate on the image.

Due to the high quality of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 hardware, totally acceptable images can be made by scanning at the lower DPI settings. What this wide DPI range offers you is power and flexibility. It's there if you need it, and having such a range of scanning options from which to choose means you won't have to fight with the scanner to get it to deliver the goods for you.

### 1.3.3 Specific Limits

The maximum allowable scanning area is approximately 8.5 inches by 11.7 inches or a total of approximately 100 square inches. The metric equivalents are approximately 21.6 cm by 29.7 cm or approximately 642 square cm. Virtually any area smaller than the maximum area may be selected for scanning.

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000

| Resolution<br>(DPI) | Bytes<br>Consumed |
|---------------------|-------------------|
| 50                  | 12,000            |
| 72                  | 21,000            |
| 75                  | 24,000            |
| 80                  | 26,000            |
| 90                  | 35,000            |
| 100                 | 43,000            |
| 120                 | 59,000            |
| 144                 | 83,000            |
| 150                 | 93,000            |
| 160                 | 103,000           |
| 180                 | 135,000           |
| 200                 | 162,000           |
| 240                 | 231,000           |
| 300                 | 366,000           |
| 320                 | 410,000           |
| 360                 | 526,000           |
| 400                 | 647,000           |
| 480                 | 935,000           |
| 600                 | 1,471,000         |
| 800                 | 2,573,000         |

Table 1.1: How much memory is consumed by scanning one square inch at various resolutions.

scanners offer up to twenty (20) levels of resolution ranging from 50 to 800 DPI; some scanners can only go up to 600 DPI. Memory required is directly coupled to the area you wish to scan, the resolution (DPI) you wish to use to scan that area, and whether you scan in 24-bit color, 8-bit grayscale, or 1 bit-plane monochrome, the three modes available with this software.

Table 1.1 is given as to help you understand the amount of memory consumed by a scan. It shows the approximate amount of contiguous expansion memory needed to scan a one square inch area at various DPI settings in 24-bit color.

Thus, nearly a full one and a half megabytes of memory is required to scan an area roughly the size of your driver's license

photo (one square inch) at 600 DPI.

Scanning in grayscale will require approximately half the amount of memory that scans in color will require. Scanning in 1 bit-plane monochrome can reduce the amount of memory required by a scan to  $\frac{1}{16}$  the amount needed for gray scale. However, the resulting image cannot be operated upon.

The figures given in Table 1.1 are estimates, rounded to the nearest 1000 bytes.

As you continue to read this manual, and begin to explore and use the EPSON\_SCAN loader software, you will appreciate the fact that the software will ALWAYS tell you how much memory, to the exact byte, is required for any proposed scan at any given DPI setting.

The software shows you when the combination of your selected scan area and DPI setting is too large for your Amiga's memory. You can also use this as a guideline with which to make future memory purchases, based on the scanning work you may need to do.

The memory usage numbers presented to you in the software interface will change dynamically as you enlarge or shrink your scan area and raise or lower the DPI setting. You always know exactly where you are. Guessing is never required.

### 1.3.4 Other Factors

Remember that the amount of memory available for ADPro's (and thus the EPSON\_SCAN loader's) use will be affected by other factors. These include:

- The amount of memory given to disk buffers and hard disk partitions.
- Memory used by resident or continuously running utilities and other software.
- Any files residing in a RAM-based disk drive reduce the potential amount of memory for your scanning work.

You might be able to cross a memory threshold, between being able to perform a scan at a desired size and resolution or not, by simply quitting some currently running programs or removing some files from your RAM-based disks. The more complex your Amiga environment grows, the more opportunities you have to reclaim some RAM when you need it.

Remember that if you do delete some files from your RAM disk, or exit other programs in order to free up some more available memory for ADPro, you must quit ADPro and run it again since it allocates memory as it loads.

## 1.4 Environment Variables

If you are running on a machine with a 68030 or 68040 CPU, please read this section. Otherwise, you may skip it.

Both the EPSON\_SCAN loader and EPSON\_SCAN\_ToDisk program have the ability to disable the data caches and interrupts on your computer during the operation of the scanner controller software. This may be necessary in situations where the scanner does not work under normal operating conditions.

To disable the data caches, type the following at any Shell prompt before starting the EPSON\_SCAN loader or EPSON\_SCAN\_ToDisk program:

```
setenv EPSONNOCACHE 1
```

**NOTE** For AmigaOS 1.3 users only: To use environment variables, you must have the ENV: assignment assigned to your RAM:ENV directory. Otherwise, the `setenv` command (which initializes this environment variable) won't be able to execute the command.

Once this command is entered you will not need to issue it again for subsequent usage of the scanner in the current session, unless, of course, you turn your computer off after a session.

To enable the data caches (the default mode), type the following:



## `unsetenv EPSONNOCACHE`

**NOTE** For AmigaOS 1.3 users only: If you want to remove this variable, you will need to manually delete it from the `ENV:` directory; there is no equivalent for the AmigaOS 2.0 (or later) `unsetenv` command.

If you want to disable the caches for all future sessions, you should place this command into your `s:user-startup` or `s:startup-sequence` file. If you choose Expert Mode during the installation, then you will be given the opportunity to add these commands to your `user-startup` or `startup-sequence`.

You can also use the `EPSONDISABLE` variable to disable interrupts while a scan is being done. Use the appropriate commands—similar to the `EPSONNOCACHE` case—to use this option.

## 1.5 Before You Start Hooking Things Together

Please confirm that you have the following components present:

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner carton should have contained:

- An ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner with transportation screw installed at factory.
- A power cable for the scanner.
- A document cover for the scanner.
- An ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual.
- An ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 Warranty information slip and warranty card (to be completed and returned directly to Epson).

(We recommended that you keep the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 carton and all associated packing materials in case you should ever have to transport your scanner to a new location or return it for factory servicing.)

The ASDG EPSON\_SCAN loader package should have contained the following components:

- An EPSON\_SCAN loader software 3.5" distribution diskette.
- A Parallel port cable to connect the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to an Amiga 500, 1200, 2000, 2500, 3000, or 4000 computer (do NOT use any other cable from any other source to connect your scanner to your Amiga!).
- This manual in the form of loose leaf, three-hole-punched pages plus a stiff divider which should all be inserted into your ADPro 3-ring binder.
- An ASDG software registration card to be completed and mailed by you to ASDG to validate your purchase.

## Chapter 2

# Installation

This chapter describes how to install the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 color scanner on an Amiga personal computer system; both the physical connections for the scanner, and software installation. This chapter should be read before installing the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 as it contains valuable information which will enable you to get the fullest use of your scanner with a minimum of delay or frustration.

### 2.1 ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 Installation

This section describes how to attach your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner to your Amiga.

Additional information will be found in the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual which comes with your scanner and you should take the time to read and fully understand the relevant portions of that manual. It contains a wealth of material which is not repeated here. Observe the User's Manual warnings

and advice about safe installation and handling of your scanner.

- **BEFORE MAKING ANY CABLE CONNECTIONS TO YOUR AMIGA, POWER OFF THE COMPUTER. YOU CAN INADVERTENTLY CAUSE PERMANENT DAMAGE TO YOUR AMIGA BY MAKING CONNECTIONS TO ITS REAR PORT CONNECTORS WHEN IT IS POWERED ON.**
- Handle the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 as you would any piece of precision equipment. It is not a toy! Be especially careful not to scratch or mar the glass surface area of the scanning bed—such scratches will be visible in subsequent scans. At some later time, after a lot of use you may wish to clean the scanner's glass bed of fingerprints or other light surface blemishes. Refer again to your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual for guidance.
- If you have not already done so, locate the transportation screw on the rear of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000. It is surrounded by a black rubber stopper. (Refer to pages 1-4 through 1-6 of your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's manual for illustrations). Remove the transportation screw and park it in the storage hole as indicated. It does not screw into the hole.

**THIS STEP MUST BE PERFORMED BEFORE THE SCANNER CAN BE USED. DO NOT PLUG THE SCANNER INTO A POWER OUTLET UNTIL THE TRANSPORTATION SCREW HAS BEEN UNSCREWED OR YOU MAY DAMAGE THE SCANNER!**

Don't lose this screw—you'll need to re-install it should you ever have to transport your scanner to a new location or return it for service.

- Locate the document cover within the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's carton and install it as instructed in the User's Manual.

- Make sure the scanner's power switch is in the "off" position. Locate the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's AC power cable and connect it to the rear of the scanner and to a wall power outlet as instructed in the User's Manual.
- At this time, before connecting the scanner to your Amiga, you may wish to perform the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's built in "self tests" to assure it is in good working condition. A computer connection is not required for the self test. Refer to pages 1-10 through 1-12 of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User Manual for self test instructions.
- Assuming your scanner passed the self test, locate the parallel port cable from the ASDG EPSON\_SCAN loader package. **DO NOT USE ANY OTHER CABLE.** Power off your scanner and attach the Centronics port end of the cable (it looks like it has two rows of gold colored "teeth") into the bi-directional parallel interface connector (the bottom of the two visible connector ports) on the rear of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000. The Centronics connector will fit onto the scanner's parallel interface connector in only one way. Use the metal clips on the interface connector to secure the cable's connector to the scanner.

Connect the other end of the cable to your Amiga 500, 1200, 2000, 2500, 3000, or 4000's parallel/printer port (Amiga 1000 owners will need to purchase a 25 pin "gender bender" first) which should still be **POWERED OFF**.

- If you own other peripherals which need to be connected to your Amiga's parallel port, you may purchase a third-party switchbox so you can have more parallel port devices connected to your Amiga at the same time (although you will only be able to use one of them at any given time), such as your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000, a printer, and other devices which use the parallel port. These switchboxes, also commonly referred to as "Data Transfer Switches" or "A/B" or "A/B/C" or "A/B/C/D" boxes (depending on how many devices they switch) are widely available. Consult the dealer

from whom you purchased your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 or any local generic computer accessories or supplies retailer.

If you decide to purchase such a switchbox, make sure that it has 25 pin female port connectors and that it passes all 25 pins straight through. The connectors on the switchbox should look the same as the parallel/printer port connector on the back of your Amiga.

With the switchbox you will also need to purchase an additional cable to connect the switchbox to your Amiga's parallel port. *Whether you decide to connect your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 directly to your Amiga or to a switchbox, remember that the cable you connect to your scanner should always be the cable supplied in this package from ASDG.*

Once you have unpacked, set up, tested, and cabled the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to your Amiga, you are ready to install the loader software so at this point you may safely power up your Amiga.

## 2.2 Software Installation

To install the EPSON\_SCAN drivers, simply follow the steps below:

1. Boot your computer as you normally would. Wait for the Workbench screen to appear and all disk activity to finish before proceeding.
2. Insert the EPSON disk into any floppy disk drive. Double-click on the disk icon to display its contents.
3. Double-click on the Install-EPSON icon to initiate the installation procedure.
4. Answer all the questions posed by the installation program. If you are unsure about a selection, press the Help... button associated with a particular panel in the installation program.

After the Installer has successfully completed the installation, remove the EPSON disk from the floppy drive and store it in a safe place. If your hard disk somehow becomes unreadable in the future, you will be assured of having an original working copy of the program available to you.

## 2.3 ADPro Basics

Understanding the EPSON\_SCAN loader requires an understanding of the basic principals of operating ADPro. If you are a seasoned ADProuser you may wish to skip over this section and proceed to the next one. If you purchased ADPro at the same time as your EPSON\_SCAN and are not yet familiar with its operations, read on:

Loaders are a source of data. In the case of the EPSON\_SCAN, the loader initiates a hardware dialog with the scanner, reads 1-bit monochrome, 8-bit grayscale or 24-bit color data from the scanner in the size and resolution you specify, and brings that data into your computer's memory. The loader's unique screen then vanishes and you are returned to the main ADPro screen to manipulate your scanner data in hundreds of ways.

Savers are destinations of data. In the case of the EPSON\_SCAN, no special saver is required or supplied, as you may manipulate the data loaded from the scanner in any manner ADPro is capable of and then use any available ADPro saver to encode image data from memory onto disk or a display device in the specified saver's format.

The EPSON\_SCAN loader differs from most other ADPro loaders in that when selected, the Preview Scan screen appears on your monitor, rather than the file requester. You can think of this as loading from the scanner, rather than from a disk file.

The Dawson/Fox file requester is fully documented in the ADPro manual (See the chapter entitled "The File Requester").

The EPSON\_SCAN loader is compatible with ADPro's image compositing capabilities. The use and operation of the image compositing control panel is explained in the ADPro manual. See the chapter entitled "Loading an Image."

The EPSON\_SCAN loader can be initiated in either Portrait or Landscape modes. These modes are selected on ADPro's main screen before loading the scanner interface. Image compositing is supported only when in Portrait mode. More on this later.

## 2.4 About This Manual

This manual was written by Harv Laser and was typeset using AmigaTeX on an Amiga 3000. Please forward any comments about or corrections to this manual to ASDG so that we may incorporate these into future printings of the manual.



## Chapter 3

# Tour of the Software Interface

This section names and describes each of the different controls and status displays found in the screens of the EPSON\_SCAN loader and the EPSON\_SCAN.ToDisk program. The loader and the program are, for the most part, functionally identical with regards to their user interfaces. Where they differ, the differences will be explained. To avoid constant reference to the names of both the loader and the free-standing program, they'll be referred to commonly here as the EPSON\_SCAN loader.

### 3.1 Control Mechanisms

Apart from the file requester (which is used to request the names of files for loading and saving) there are three types of control mechanisms used in the EPSON\_SCAN loader. Figure 3.1 shows these three types. These mechanisms are similar to those used throughout the other screens and windows in ADPro. The main noticeable difference between the EPSON\_SCAN loader's screen and ADPro's main operating screen is that the loader's screen operates in the Amiga's high resolution mode.

From top to bottom the three types of control mechanisms are:

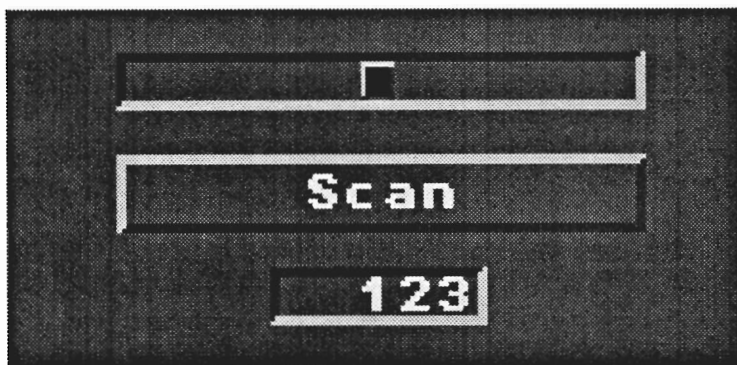


Figure 3.1: The Three Types of Control Mechanisms Used in the EPSON\_SCAN Loader.

**SLIDER** A slider is a proportional input mechanism. It allows you to enter a value within a preset range by dragging the slider button horizontally along the width of the slider. The slider is said to be proportional in that the slider button's relative position within the slider is proportional to the entered value within the preset range. That is, if the slider button is in the middle of the slider, the entered value will be in the middle of the preset range.

The slider button can be positioned using the left mouse button. To make a continuous change in the slider, depress and hold the left mouse button over the slider button. While continuing to hold the left mouse button, move the slider button (by dragging the mouse left or right) to the desired position and release. To make a discrete change in the slider, click the left mouse button within the body of the slider to the side of the slider button towards which you wish to change the entered value.

All sliders in the EPSON\_SCAN loader screen will have a similar appearance to the one shown in Figure 3.1.

**BUTTON** A button is like its real-world counterpart.

Clicking upon the button with the left mouse button will cause some action to take place.

Notice that buttons appear to be raised up off the Amiga's screen. Any region within the EPSON\_SCAN loader screen which is enclosed with a thin "raised" border is a button.

**GADGET** A gadget is a method of allowing numeric input to the EPSON\_SCAN loader. All gadgets on the EPSON\_SCAN loader's screen will have an appearance similar to the one shown in Figure 3.1.

A numeric value may be entered into a gadget using the keyboard when a cursor is present within its borders. To select a gadget for input when a cursor does not appear within its borders, click the left mouse button within the body of the gadget.

When a gadget is accepting numeric entry, the left and right arrow keys found on your keyboard can be used to move the cursor within the body of the gadget. The backspace key will erase the character to the left of the cursor. The delete key will erase the character under the cursor.

Note that you should always hit the return key to make sure your entry into a numeric gadget will be recognized by the software.

## **3.2 The Preview Screen and the Preview and Fine Windows**

Initially, the EPSON\_SCAN loader is selected as you would select any other ADPro loader currently available on your system. (Refer to section of the main ADPro manual entitled "Selecting A Load Format", if you are unfamiliar with loader selection).

***DO NOT ATTEMPT TO USE THE EPSON\_SCAN LOADER UNLESS YOUR SCANNER IS POWERED ON AND THE GREEN READY LIGHT IS LIT.***

If the scanner is not already powered on, engage its power switch and in a few moments it will have completed its power-up initialization. You will hear a brief whirring noise coming from the scanner at power-up: this is the scan carriage returning to its home position, something it does each time you turn it on.

If everything is functioning normally, both the Power and Ready lights will glow green, the Zoom light will glow orange, the Bright light will be off, and the number "100" will appear in green in the control window. When all these conditions are met you are ready to begin scanning.

Under normal conditions, the EPSON\_SCAN loader will provide you with *TOTAL* control of the scanner. The buttons on the scanner's front panel can be ignored. You never need to touch them. Concern yourself with the control panel's status lights only. The buttons will come into play at such time as you choose to connect a printer (as explained in the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User Manual) directly to the scanner.

To begin a scanning session, choose **EPSON** as the desired loader in ADPro's main screen and click the large **Load** button. The EPSON\_SCAN loader will be fetched from your disk drive and in a couple of seconds you will see the EPSON\_SCAN loader's preview screen. It is on this screen that all scanner control operations take place. You are returned to ADPro's main screen only when you choose to scan in some data in "fine scan" mode, or elect to cancel the scanner operation.

To use the EPSON\_SCAN\_ToDisk program, either double-click its WorkBench icon or invoke the program by its name at a CLI or Shell prompt.

There are two primary operating windows in the EPSON\_SCAN loader and both operate on the same high resolution screen, referred to as the "Preview Screen." These are the Preview Scan and Fine Scan windows. It is possible to have one or the other window open atop the preview screen at any given time, but not both.

The first time you load the EPSON\_SCAN loader and under most circumstances, the left side of the Preview Screen is occupied by a representation of some or all of the scanner's glass bed,

with a ruler running across the top and down the left side. The amount of the bed will vary depending on the size and position of the Select Box, but SOME part of the bed area will always be visible. A portion of the right side of the Preview Screen will contain either the Preview Scan or Fine Scan window.

We will first cover the features of the Preview Scan Window and the Select Box, and then discuss Fine Scan window. You need to familiarize yourself with the controls available to you in the Preview Scan window first. Despite these long descriptions, scanner operation on the Preview Screen is highly interactive and intuitive and you will find yourself moving from one control to another very quickly after just a short period of initial orientation. The more you use this software the more you will understand and appreciate its power, and the logic of its design.

### 3.3 Preview Scan Window Overview

The controls in the Preview Scan window let you quickly scan, in 50 DPI (dots per inch, the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's lowest resolution), the entire allowable area of the scanner's bed and then select a specific area to "zoom in" on and scan in greater detail if desired.

You may abort a scan in progress.

You may cancel the scanner operation entirely.

You may raise or lower the brightness of a preview scan.

You may manually enter width and height settings in both inches (or centimeters) or pixels.

You have total control over every aspect of selecting the area of the scanner's bed you wish to scan. The Preview Window presents an accurate portrayal of how much memory any fine scan's data will occupy before you actually attempt to perform a fine scan. This information is particularly useful on machines with less than four megabytes of expansion memory.

Figure 3.2 shows the EPSON\_SCAN loader's preview screen with the preview window open upon it. The left area of the screen represents the scanner's rulers when set to **Full Bed** mode. When

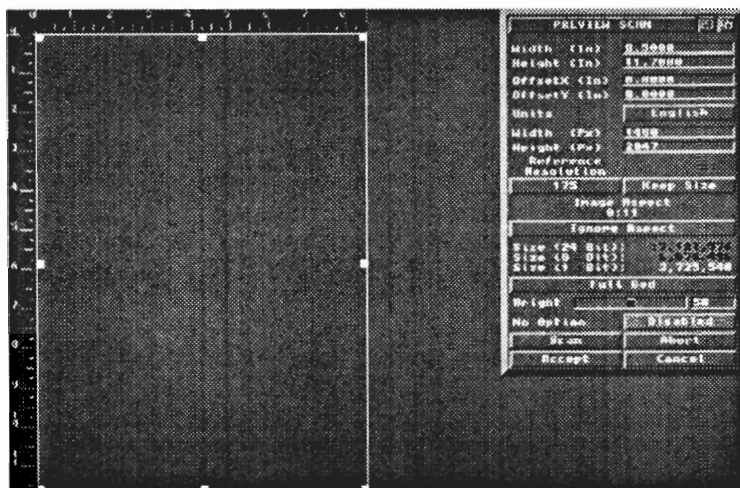


Figure 3.2: The Preview Scan window.

you lift the scanner's cover and observe the glass bed you will see the rulers running across the top and down the right side of the bed. The rulers on the preview screen run across the top and down the LEFT side of the representation of the bed area. This may seem backwards but remember, the preview screen shows you the scanner's bed as though you were the scan carriage, looking up at the bed from underneath it. Since your subject is always placed face down on the glass, this ruler orientation should make sense.

We'll begin our tour of the preview window by starting from the top of the window and proceeding down. To practice using the controls you may wish to select a piece of artwork and place it face down on the scanner's glass bed, as close to the junction of the two rulers as possible.

The components of the Preview Scan window are as follows:

## Drag Bar

## BUTTON

The drag bar is a button containing the words **PREVIEW SCAN** with which you may reposition the preview scan window anywhere on your screen. Place your mouse pointer anywhere within the border of the drag bar and depress and hold the left

mouse button. Now you may drag the Preview Scan window around. Let go of the mouse button when the window is where you want it. You cannot drag the window off the screen.

### **Shrink/Expand**

### **BUTTON**

This button is just to the right of the drag bar and when selected with the left mouse button will cause the preview window to shrink down to its minimum size. A second click on this button causes the preview window to expand out to its full size. This is useful to get the Preview Scan window out of the way, (depending on how much of the screen the scanner's bed area occupies) and if you cannot drag the preview window enough to see what you need to see behind it. You may shrink the Preview Scan window and drag it, using the drag bar, anywhere on the Preview Screen. You may expand the Preview Scan window back to its full size no matter where on the screen it is at the time you expand it.

All of the settings in the Preview Scan window are remembered when the window is shrunk and then expanded. The Shrink/Expand button has imagery on it to remind you of its purpose.

### **Front/Back**

### **BUTTON**

The front/back button, located to the right of the Shrink/Expand button, is equivalent to the screen front/back gadget found on most Amiga screens. Selecting the front/back button will cause the Preview Screen to go behind all other screens you might have on your Amiga at that time and will return you to ADPro's main screen.

To get back to the Preview Screen may require selecting the back button in one or more open screens—this depends entirely on what other software you have running at the time you push back the loader's screen. The front/back button has imagery on it to remind you of its purpose.

**Width (In)**  
**Height (In)**

**OffsetX (In)**  
**OffsetY (In)**

## GADGETS

These four gadgets accept and display numeric data only. They show the current size and placement of the Select Box on the scan bed. The values in these gadgets are updated constantly when you use the left mouse button to resize the Select Box with one of its eight handles.

Alternatively, you can specify the size of the selected area directly by clicking into the width, height, or either offset gadgets. This will activate a cursor in the gadget into which you clicked and permit you to modify the numbers displayed or erase them and enter your own numbers from the keyboard.

While the **Width** and **Height** gadgets determine or display the current size of the Select Box, the **OffsetX** and **OffsetY** gadgets determine the position of the Select Box relative to the rulers. An **OffsetX** setting of 0.0000 and an **OffsetY** setting of 0.0000 mean the Select Box is pushed as far as it will go into the upper left hand corner of the bed area where the rulers meet.

The two ways of choosing scan area size and placement, the Select Box, and these input gadgets, offer you total flexibility and accuracy in getting exactly the imagery you wish to scan.

**Units English/Metric**

## BUTTON

This button, when selected, toggles the numbers displayed in the **Height**, **Width**, both **Offset** gadgets and both rulers between English and Metric values. When the word **English** is visible on the face of the button, the values displayed are in English measurements. Click this button once—its face changes to display the word **Metric** and the measurements change to the metric equivalents of their (formerly) English values. English measurements are displayed to an accuracy of  $\frac{1}{10000}$  of an inch. Metric measurements are displayed to an accuracy of  $\frac{1}{10000}$  of a centimeter. The values on the scanner's bed rulers will change from displaying inches when English is selected, to displaying centimeters when Metric is selected.

**Width (Px)**  
**Height (Px)**

## GADGETS



These two gadgets display the current size of the Select Box area in terms of pixels. The values in these gadgets are updated constantly when you use the left mouse button to change the size of the Select Box. The numbers displayed in the gadgets are always whole numbers as it is not possible to specify a fraction of a pixel.

Alternatively, you can specify the exact size of the selected area directly by clicking in either the **Width (Px)**, or **Height (Px)** gadgets or both in turn and enter new numbers using the keyboard. The size of the Select Box on the bed display will change dynamically as new numbers are entered into these gadgets to reflect the new area to be scanned.

Note that due to a hardware limitation of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000, the **Width (Px)** gadget will only accept numbers which are a multiple of eight (8). Any number entered which is not a multiple of eight will be rounded up to the next full number which is a multiple of eight. The **Height (Px)** gadget will accept ANY whole number you enter up to the maximum which the Select Box can represent on the current bed preview area at the current reference resolution.

Some scanners, like the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000, cannot have a scan positioned completely arbitrarily. Don't be alarmed if you type in one measurement and the computer changes it every so slightly to another. With the above caveats kept in mind, under the vast majority of circumstances you will be able to scan the exact area you desire.

## Reference Resolution

## BUTTON

The reference resolution button displays a number which is one of the nineteen possible DPI settings at which the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 operates (see Section 1.3.3 for the list of these resolutions).

This is called the Reference Resolution because it is used only for reference—it answers the question “how big is the scan now?” The reference resolution doesn't mean you *have* to perform your fine scan at that resolution, rather it simply allows the program to tell you how big the scan would be at any given time.

When you click the scan button to initiate preview scan, the

Reference Resolution may change to a different value than the one shown before the scan button was clicked. In the preview mode, the scanner control software picks a resolution which best matches the physical area you're scanning to the Amiga display.

After the scan occurs you will see the select box does not completely reach the edges of the rulers. This is the "oops" factor. It allows you to resize and reposition the select box to not only a smaller area but a slightly larger one as well, without having to back down to a lower resolution and scan a larger area again.

Position your mouse pointer over either the left half or the right half of this button and click the left mouse button. The Reference Resolution displayed will either raise or lower, stepping through the nineteen possible resolutions, at each mouse click. As it does so, you will also see both pixel **Width** and **Height** gadgets display new information, and in some cases you will see the Select Box either grow or shrink as changes to the reference resolution are made.

## **Keep Pixel/Keep Size**

## **BUTTON**

This is a button with two positions. The words displayed on this button show its current state. Position the mouse pointer over it and click the left mouse button. If **Keep Pixel** is displayed on the button, clicking it once will change it to **Keep Size** and clicking it again will change it back to **Keep Pixel**.

If the words **Keep Pixel** are displayed on the face of the button, the numbers entered into the **Width (Px)** and **Height (Px)** gadgets become locked. By clicking on the **Reference Resolution** button to raise or lower the current DPI setting, you will see the Select Box grow or shrink, the numbers in the **Width (In)** and **Height (In)** gadgets will correspondingly grow or shrink, but the numbers in the **Width (Px)** and **Height (Px)** gadgets will remain the same.

Here you should begin to understand how the DPI setting of your scanner relates to how much imagery will be scanned.

**NOTE** For any given **Width** and **Height** pixel settings, if **Keep Pixel** is *on*, raising and lowering the reference resolution *only* changes the size of the area which will be scanned. It does *not* affect the amount of memory the scan will require and it does *not* change the size of the final scan as it will appear on your screen in ADPro. It is as though you were telling the scanner “I want to scan an area of X number of pixels (or inches) wide by X number of pixels (or inches) high. Show me how much of the bed you will need to scan at different DPI resolutions to give me a picture of this size.”

**NOTE** To express this another way: you can fill the screen by scanning a very large area at low resolution or a very small area at high resolution but the size of the final picture on your screen will be the same and either scan will require the same amount of RAM to perform because you are asking the scanner to deliver you exactly the same number of pixels.

If you click on the **Keep Pixel** button once, it changes to **Keep Size**. This setting does the exact opposite of what **Keep Pixel** does.

When **Keep Size** is displayed and the **Reference Resolution** button is clicked to either raise or lower the indicated DPI resolution, the Select Box will maintain its same size on the bed display, the **Width (In)** and **Height (In)** gadgets will display the same parameters, but this time the **Width (Px)** and **Height (Px)** gadgets will grow or shrink, as will any given scan's memory requirements.

Put another way, when **Keep Size** is your choice and you cycle through the nineteen available resolutions, you are telling the scanner “Show me how large a picture I will have, in inches and in pixels, at different resolutions, but don't change the size of the area you will scan.”

The **Keep Size** setting will directly affect the amount of memory required for a scan. With **Keep Size** turned on, raising the Reference Resolution will require more memory to scan the selected area. Lowering the Reference Resolution will require less

memory.

## Image Aspect

This is a display which shows the current width and height ratio of your proposed scan based on the settings of the gadgets described above and the size and shape of the Select Box. If you were to enter 400 in the **Width (Px)** gadget and 200 in the **Height (Px)** gadget, the Image Aspect display would be "2:1" no matter what your chosen reference resolution. The **Image Aspect** display will change dynamically as the other gadgets are used or as the Select Box is dragged into different sizes and shapes.

## Ignore Aspect/Keep Aspect

## BUTTON

This is a button with two positions. The words displayed on this button show its current state. Position the mouse pointer over it and click the left mouse button. If **Ignore Aspect** is displayed on the button, clicking it once will change it to **Keep Aspect** and clicking it again will change it back to **Ignore Aspect**.

Aspect refers to the aspect ratio of your picture, its width versus its height, as expressed in the **Image Aspect** display directly above this button.

In **Ignore Aspect** mode, the width and height of the Select Box may be dragged into any square or rectangular shape, tall or wide, fat or skinny, which you desire, and the **Image Aspect** indicator will dynamically change to show the new aspect ratio.

In **Keep Aspect** mode, the width and height of the Select Box are *locked* with respect to each other. The indicated aspect ratio of width versus height will not change as you attempt to resize the Select Box and the **Image Aspect** indicator's display will remain constant.

Size (24 Bit)

Size (8 Bit)

Size (1 Bit)

These displays tell you at any given time how much memory your proposed scan will require based on the settings of the other gadgets. These numbers are accurate down to a single byte of RAM. You never have to guess if you have enough memory to scan the area shown by the Select Box at your chosen resolution, either in full 24 bit color, or 8 bit grayscale or in 1 bit monochrome. As long as the numbers in this display remain WHITE, you have enough memory. As a rule of thumb, with all other settings being equal, a 24-bit color scan will require roughly twice as much memory as an 8-bit grayscale scan which, in turn, will require 8 times as much memory as a 1 bit-plane monochrome scan.

If one or more of the Size numbers turns black, this means you do not have enough available memory for the proposed fine scan at the currently selected reference resolution. If this happens you must use the gadgets or the Select Box to select either a smaller area, or the same area in a lower DPI resolution. As you shrink the Select Box or reduce the Reference Resolution, eventually the black numbers will turn white, telling you that enough memory is now available for the proposed scan.

If you find the numbers turning black more often than you'd like, the obvious solution is to buy more RAM and install it in your Amiga. However, other temporary solutions may often allow you to reclaim some memory, as explained earlier in Section 1.3.2.

Since you're still in a preview mode, even if the Size numbers are black, you can still press the **Scan** button. The scanner will choose one of the nineteen preset DPI resolutions appropriate to the size of the Select Box and begin its preview scan.

Note that if the area you are about to scan in 1 bit-plane monochrome will fit in memory if it had been an 8 bit-plane gray scan, the 1 bit-plane monochrome data will be converted into gray scale data. This means you will be able to use ADPro's operators on the resulting image. If there isn't enough memory to convert the 1-bit data into 8-bit data, you can still perform the scan. But, you will not be able to operate on the image.

As an alternative to more RAM, if you have enough disk space available you could use the EPSON\_SCAN\_ToDisk program instead of the EPSON\_SCAN loader. EPSON\_SCAN\_ToDisk does not require massive amounts of available memory to perform large scans since it writes the scanned data to disk and not to

memory as it does its job. The size of the file it writes will always be some number of bytes smaller than the size numbers indicate, but there is no fixed formula to determine what the exact size of the file will be.

## Full Bed

## BUTTON

Position the mouse pointer over the **Full Bed** button and click the left mouse button once to reset the rulers and the Select Box to full bed size. When this button is clicked these things happen immediately:

- The full length of both rulers is displayed
- The Select Box expands to fill the entire bed display out to the maximum length of both rulers
- The **Width (In)** gadget displays 8.5067 inches
- The **Height (In)** gadget displays 11.6933 inches
- The **OffsetX (In)** gadget displays 0.0000 inches (or centimeters)
- The **OffsetY (In)** gadget displays 0.0000 inches (or centimeters)
- If **Metric** rather than **English** Units was previously selected, the gadgets will display centimeters instead of inches.
- The **Image Aspect** indicator displays 8:11
- The **Reference Resolution** button maintains whatever setting it had at the time the **Full Bed** button was clicked, however if a preview scan is initiated with the **Scan** button, the **Reference Resolution** will always change to "50".
- The **Width (Px)** and **Height (Px)** gadgets will display their respective numbers corresponding to a full bed scan at the current Reference Resolution setting is, however if a preview scan is initiated with the **Scan** button, the **Reference Resolution** changes to "50" and thus the **Width (Px)** gadget will display 424 and the **Height (Px)** gadget will display 584.

- The **Size** displays will reflect the memory requirements for a scan of the full bed at whatever setting the **Reference Resolution** displayed until a preview scan is initiated, at which time they will display 1,012,944 bytes for 24-bit, 499,904 bytes for 8-bit and 31,244 bytes for 1-bit monochrome.

The **Full Bed** button is your “cancel everything and take me home” command.

## Bright

## SLIDER & GADGET

The bright slider can be used to adjust the relative brightness of subsequent preview scans. Its setting only affects a preview scan, and not the fine scan results. If a preview scan is too dark, adjust the bright slider to the right. If a preview scan is too bright, adjust the bright slider to the left. After adjusting the bright slider you will have to rescan to see the results.

The numeric value of the bright slider can be seen to the right of the slider in the bright gadget. As you move the bright slider button, the numeric value to the right of the slider will change to accurately reflect the value of the preview bright slider.

The bright slider and gadget have a range of 0 to 100.

If you wish to use the keyboard to enter a preview brightness value rather than use the bright slider, click the mouse pointer into the bright gadget. A cursor will appear inside the gadget to allow you to modify the current number or erase it and enter a new number. Pressing the return key accepts the entered number. Negative numbers or numbers higher than 100 will be rejected and the bright gadget will redisplay its previous value corresponding to the position of the slider.

The Bright setting you choose is relative and can be affected by the brightness and contrast controls on your monitor, or the intensity of the lighting in the room in which you work. *There is no best or perfect setting for this slider.* The bright setting that works for you will also vary with the overall brightness of the artwork you intend to scan. It gives you enough range to let you see your preview scans, whether your artwork is very dark or light.

Remember that the Bright slider affects only the preview scan display, and not the fine scan results.

## No Option

**ADF**

**TPU**

**GADGET**

The Option Status gadget toggles between the **Enabled** and **Disabled** states, assuming you have one of the scanner options attached. If you don't have an option attached, this button will be ghosted and the text to the left of it will say "**No Option**".

If you have the Automatic Document Feeder option installed, the text will say "**ADF**" and the gadget will be enabled. If set to **Enabled**, you may use the document feeder. If set to **Disabled**, you may use the scanner as you would normally would without any option installed. This allows you to do normal scanning without having to detach the document feeder unit.

If you have the Transparency Unit option installed, the text will say "**TPU**" and, like ADF option, the gadget will become selectable. If set to **Enabled**, you may use the transparency unit. Note that the scan area changes from its previous size to a 5 x 5 inch area, as depicted by the on-screen rulers. If set to **Disabled**, you may use the scanner in normal (no option) mode; note how the scan area changes from 5 x 5 to its previous dimensions.

**Scan**

**BUTTON**

Selecting the **Scan** button initiates a preview scan based on the parameters displayed in all the other gadgets and displays in the Preview Window. After the scan is complete, the Preview Screen's scanner bed area will be filled with a high resolution dithered grayscale representation of what is on the scanner's glass bed.

**Abort**

**BUTTON**

When a preview scan is in progress it can be aborted by clicking the left mouse button on the **Abort** button. Whatever portion



of the scanner bed which had been scanned will remain visible and usable for cropping the image area.

## **Accept**

## **BUTTON**

Selecting the **Accept** button will cause you to exit from the Preview Scan window and display the Fine Scan window, the second primary window in the EPSON\_SCAN loader. Don't worry if you hit this button in error. The Fine Scan window has a button which will let you return to the Preview Scan window where all of your Preview Scan settings will be as they were.

## **Cancel**

## **BUTTON**

Selecting the **Cancel** button exits the EPSON\_SCAN loader and returns you to ADPro's main screen. All of the EPSON\_SCAN loader's settings, both in the Preview Scan window and the Fine Scan window are remembered each time you select **Cancel**, so everything will be just as you left it the next time you wish to use the EPSON\_SCAN loader.

## **The Select Box**

The selected scanning area, for both a Preview Scan and a Fine Scan, is outlined by the Select Box on the likeness of the scanner's glass bed which appears on the Preview Screen.

The Select Box has eight handles, one at each corner and one in the middle of each of its four sides. These handles allow you to size and stretch and shrink the Select Box as though it were made of rubber.

To change the size and/or shape of the Select Box using the mouse, depress and hold the left mouse button while the mouse pointer is on top of one of the eight handles. Drag the handle in the direction you wish to size or shape the box. Very fine degrees of sizing and shaping can be performed with the handles.

If the select box is sized extremely small all eight handles will vanish, since there is not enough screen resolution to draw both the box and its handles. This effect is perfectly normal and

allows you to continue to manipulate the select box even when it is extremely small. The box itself will be visible and the handles are all still there, just very tiny and too small to see. As you enlarge the select box, the handles will reappear.

As you move and resize the Select Box over the Preview scan of your artwork, the box's outline may at times not look completely solid. This is simply an artifact due to the dithered representation of your artwork under the box and is perfectly normal.

To change the position of the Select Box using the mouse, depress and hold the left mouse button while the pointer is anywhere inside the Select Box's outline but *not* on top of one of the handles. The Select Box will now follow the mouse position within the preview area. Very fine amounts of movement can be achieved this way. Release the left mouse button to drop the Select Box at the new desired location. You may not drag the Select Box farther than the ends of the rulers. If you depress and hold the mouse pointer on the bed area anywhere outside the outline of the Select Box it will have no effect.

Your ability to resize the Select Box to a desired shape is dependent on the current status of the **Keep Aspect/Ignore Aspect** button described above, so keep an eye on this button if the Select Box is not behaving as you expected it to.

With **Keep Aspect** on, any attempt to resize the Select Box will constrain the box to only resize proportionately in both width and height at the same time, regardless of which of the eight Select Box handles you choose to use. With **Ignore Aspect** on, you are free to change the aspect ratio of the Select Box as you manipulate its handles.

Despite this long explanation you will find the Select Box's features are easy to master and its operation is very logical. In fact it should only take you a couple of preview scans to learn how all the elements of the Preview Window are linked to and interact with each other. Practice using these buttons and gadgets until you become familiar with them.

## 3.4 Fine Scan Window Overview

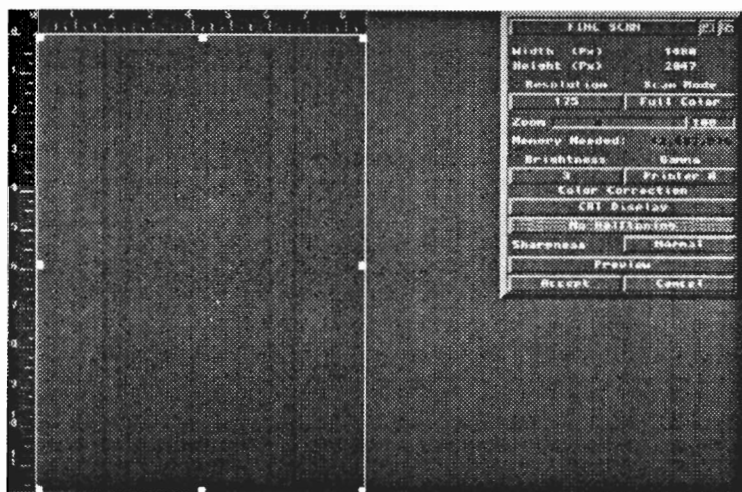


Figure 3.3: The Fine Scan window.

Figure 3.3 shows the EPSON\_SCAN loader's Preview screen with the Fine Scan Window open upon it. The left area of the screen represents the scanner's rulers when set to **Full Bed** mode. The Fine Scan window appears only when you select the **Accept** button in the Preview Scan Window. It is in the Fine Scan window where you make the final decisions that will result in a full 24-bit color, 8-bit grayscale or 1-bit monochrome scan taking place.

Here too you may view or change the final scanning resolution, see how large your scan will be, expressed in pixels, know how much memory will be required for the Fine Scan, control the Fine Scan's overall brightness level, color and gamma correct the results for a particular type of monitor or printer, return to the Preview Scan Window, or accept everything and proceed with the Fine Scan.

You'll notice that the Fine Scan and Preview Scan Windows look and behave similarly, except the Fine Scan Window contains fewer controls and takes up a bit less space on your screen.

From its top and working down, the components of the Fine Scan Window are described as follows:

**Drag Bar**  
**Shrink/Expand**  
**Front/Back**

**BUTTON**  
**BUTTON**  
**BUTTON**

These mechanisms operate in an identical fashion to those found in the Preview Scan window. Refer to their descriptions in the Preview Scan window tour above.

**Width (Px)**  
**Height (Px)**

These two displays contain the same pixel dimensions as were displayed in the similarly-named gadgets in the Preview Scan window. Here, however they are displays only, not gadgets, and the numbers displayed will not react to any direct mouse pointer clicks or keyboard entry.

That is, you use the preview window to set the area you wish to scan. In the fine scan window, you cannot adjust the area you wish to scan, but you can adjust the resolution (DPI) at which that area will be scanned.

**Resolution**

**BUTTON**

This button's face displays the DPI resolution in which the Fine Scan will be performed when the **Accept** button is selected. Initially, the button will contain the same resolution as the Preview Scan window's **Reference Resolution** button contained at the time you left the Preview Scan window.

You may click on either end of the **Resolution** button to raise or lower the Fine Scan resolution through the up to twenty discrete steps the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 provides; some scanners do not have the 800 DPI setting. These resolutions are 50, 72, 75, 80, 90, 100, 120, 144, 150, 160, 180, 200, 240, 300, 320, 360, 400, 480, 600, and 800 dots per inch. Clicking the right half of the **Resolution** button raises the DPI until you reach 600 or 800 (if your scanner supports it). The next click will start again at the lowest setting 50, and proceed upwards. Clicking the left half of the **Resolution** button lowers the DPI until you reach 50. The next click will start from the highest setting, 600 or 800, and proceed downwards.

As the Resolution is raised or lowered, so too will the **Width (Px)** and **Height (Px)** numbers change accordingly, up or down, and the Memory Needed indicator's display will raise or lower.

## Scan Mode

## BUTTON

This button has three positions. If its face reads **Color Scan** your fine scan will produce a 24-bit deep image having up to 16,777,216 colors (8 bits each of red, green and blue information).

When its face reads **Gray Scan**, the fine scan will produce an 8-bit deep image having up to 256 shades of gray.

When its face reads **Monochrome**, the resulting scan will have only black and white.

These are the three modes available. Data produced by the 24-bit and 8-bit modes are not directly viewable in any of the Amiga's native display modes. This is where ADPro goes to work: to take either 24-bit color or 8-bit gray data and manipulate it into formats suitable for viewing.

## Zoom

## SLIDER & GADGET

The Zoom function can be used to reduce or enlarge the size of a fine scan image. The zoom value can range from 50% to 200% in increments of 1%. The normal setting for this slider is at 100%, which equates to "no zoom." The zoom factor can be increased or decreased by positioning the mouse pointer above the slider's button. Depress and hold the left mouse button while moving the mouse left or right to change the zoom factor.

The numeric value of the zoom slider can be seen to the right of the slider in the zoom gadget. As you move the slider button, the numeric value in the gadget will change to accurately reflect the value of the slider.

If you prefer to use the keyboard to enter a zoom value just click the mouse pointer into the zoom gadget. A cursor will appear inside the gadget to allow you to modify the current number or erase it and enter a new number. Pressing the return key accepts the entered number. Numbers lower than 50 or higher than 200

will be rejected and the zoom gadget will redisplay its previous value corresponding to the position of the slider.

Think of the zoom function of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner as a sort of hardware based scaling feature. So, if you set a 300 DPI scanning resolution with a zoom factor of 200 percent, the scanner will simply double up each pixel (both horizontally and vertically) as it is sent to the computer. A zoom factor of 50 percent means that the scanner will throw away every other pixel and row. The scaling features of ADPro will produce much better results as scaling is done by interpolation within ADPro rather than by pixel duplication or decimation done by the scanner. In other words, you probably never have to set the zoom control to anything other than 100 percent.

## Memory Needed

This display, as mentioned earlier, indicates how much memory is required to perform a fine scan, in either 24-bit color, 8-bit grayscale or 1-bit monochrome modes taking all other factors into play. The number displayed in this indicator will be white, if you have enough memory to perform the fine scan, and will turn black if you do not.

This display is directly coupled to the **Resolution** button, **Scan Mode** button and Zoom slider/gadget described above and will raise or lower depending on how you manipulate those controls.

In EPSON\_SCAN\_ToDisk, if the memory needed value is black, you can still scan successfully (provided you have enough space on disk) but you don't have enough memory to be able to manipulate the image in ADPro.

## Brightness

## BUTTON

This button regulates the overall brightness of the fine scan. The button's face will display a number which indicates the chosen brightness setting. The possible settings for the **Brightness** button are -3, -2, -1, 0, 1, 2, and 3, for seven total settings. The number "0" is the center setting. Clicking on the right side of the button will raise the number. Clicking the left side of

the button will lower the number. Like resolution button, this button's displayed setting will roll over at the highest and begin again at the lowest, or vice versa, depending on which side of the button you click.

Which setting is best to use is wholly dependent on the appearance of the artwork you intend to scan. The best strategy here is to start with a Brightness setting of "0" and try a fine scan, then manipulate the fine scan data into an Amiga display mode in ADPro and see how it looks. Go back and re-scan your data at a higher or lower brightness setting based on the results of your initial trials. With some scanning experience you will eventually be able to look at almost any kind of artwork and know whether you will need to increase or lower the brightness setting to achieve acceptable and pleasing results.

This button can, of course, be used to create too-light or too-dark scans on purpose for special effects.

Remember, the **Brightness** button has no effect at all on a Preview Scan, **ONLY** on a Fine Scan. Conversely, the Preview Scan Window's Bright slider and gadget affect only a Preview Scan and never a Fine Scan.

## **Gamma**

## **BUTTON**

This button offers control over the gamma correction feature provided by the scanner and is used to help you make the fine scan more closely resemble your original artwork when viewed on your Amiga's monitor, other kinds of monitors, or when printed.

Clicking on either end of the button will cycle through the button's five possible choices: **CRT A**, **CRT B**, **Printer A**, **Printer B**, and **Printer C**. These choices are described in more detail on pages 2-16 and 2-17 of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual.

If you intend to scan images which will be viewed on normal Amiga displays, leave this button with **CRT A** displayed on its face and forget about it. Use ADPro to perform any color adjustments which might be needed.

## **Color Correction**

## **BUTTON**

This button's display tells the scanner what type of printer or computer screen display you are using to view the scanned image so that the scanner processes colors appropriately. The button has four possible setting choices: **CRT Display**, **Dot Matrix Printers**, **Thermal Transfer Printers**, and **Ink Jet Printers**. Clicking on either end of this button will cycle up or down through these four choices.

For Amiga video use you will normally want to leave the button with **CRT Display** selected. This button controls a feature of the scanner which is provided for completeness rather than with the intent that this function will get used.

Again, you'll find more information about the Color Correction features of your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 in the User's Manual.

## Halftoning

## BUTTON

This button is enabled only when scanning in the 1-bit monochrome mode. It allows you to select one of four different halftoning methods supported by the scanner. Halftoning is similar to dithering in that it will enable you to get the impression of shades of gray even though you are scanning in monochrome (black and white). If you are performing a monochrome scan which cannot be converted into gray scale by ADPro (due to limited memory) then you might want to take advantage of this feature of the scanner. However, if you do have the memory to scan in gray scale, doing so will always produce better results.

For the ES-600C and ES-800C scanners, the new settings available with this gadget are: **No Halftoning**, **Hard Tone (Mode A)**, **Soft Tone (Mode B)**, **Net Screen (Mode C)**, **4 x 4 Bayer**, **4 x 4 Spiral**, **4 x 4 Net Screen**, and **8 x 4 Net Screen**. Consult your scanner hardware manual for more information on these settings.

## Sharpness

## GADGET

For the ES-600C and ES-800C scanners, this button control how sharp or blurry the scan will be. The possible choices are: **Very Blurry**, **Blurry**, **Normal**, **Sharp**, and **Very Sharp**. Just as



with the **Brightness** gadget, the best settings depends upon the image being scanned. Start with a **Normal** setting, then adjust it based on the results.

#### **Preview**

#### **BUTTON**

Click this button to leave the Fine Scan window and return to the Preview Scan window.

#### **Accept**

#### **BUTTON**

Click this button to begin a Fine Scan.

It is here that you will learn the major differences between how the EPSON\_SCAN loader and the EPSON\_SCAN.ToDisk program behave when a fine scan is initiated.

### **3.4.1 If You Are Using the EPSON\_SCAN Loader Inside of ADPro**

Clicking **Accept** will cause the Preview Window to vanish. You will be returned to ADPro's main screen and the scanner will begin a fine scan, taking all settings into consideration. A window with a "gas gauge" will appear on ADPro's screen where you may monitor the scanner's progress. The window will remind you about which type of scan you are performing. The data, as it is scanned, will be transferred to your Amiga's memory. Your only options at this point are to wait for the scan to complete, or to click the window's **Abort** button to cancel the scan. In either case you will be left at ADPro's main operating screen.

If you let the scan finish you may then use any of ADPro's image processing features to manipulate the data in memory, or use one of the available savers to save the raw or processed data to disk or display it on a supported third party display device if you own one. If you abort the scan and wish to return to the EPSON\_SCAN Loader's Preview Screen you must click the large **Load** button again. If you do this, all of the Preview Screen's window settings will be as they last were.

### 3.4.2 If You Are Using the EPSON\_SCAN\_ToDisk Program

Clicking **Accept** will cause a file requester to appear. Enter the desired path, drawer and filename where the fine scan data will be written. Upon entering the information and pressing the return key after the filename or clicking the **OK** button, the fine scan will begin and you may then monitor its progress in the scanning window on a "gas gauge." This window contains a drag bar, shrink/expand gadget, and push-to-back gadget, all of which behave similarly to those described in the Preview Scan window tour earlier in this manual.

If you let the fine scan finish, upon its completion, the scanning window will vanish and return you to the Fine Scan window. Your fine scanned data has now been written to a disk file at the path and with a name you entered into the file requester.

If you abort the fine scan before the gas gauge completes its arc of travel, a requester will open at the mouse pointer's current location and inform you that some number of lines of scan data were written to disk. This requester offers two choices: click the **Cancel** button to accept the amount of data that has been written to disk. The file will be properly closed. Click the **OK** button in this window to abort the operation and delete the partially written files.

#### Cancel

#### BUTTON

This button, in the lower right hand corner of the Fine Scan window is the **Exit** button. Clicking this button will cause different results depending on whether you are using the EPSON\_SCAN loader inside of ADPro or the EPSON\_SCAN\_ToDisk program.

If you are using the EPSON\_SCAN loader inside of ADPro: The **Cancel** button, when clicked, will cancel all scanner operations and return you to ADPro's main screen. All of the EPSON\_SCAN loader's Preview Screen settings will be remembered and recalled the next time you load it.

If you are using the EPSON\_SCAN\_ToDisk program: The **Cancel** button, when clicked, will cancel all scanner operations and will return you either to the Amiga WorkBench or to the CLI or

Shell prompt, depending on whether you ran the program from its WorkBench icon, or by typing its name.

### 3.5 A Word About Fine Scanning and NTSC Pixels

The individual pixels in an NTSC video screen produced by a fine scan operation are not square. In fact, they are higher than they are wide in low resolution, non-interlaced displays. However, the pixels produced by the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 scanner are perfectly square. This mismatch in aspect ratio can and will result in NTSC images which appear vertically stretched.

You can prove this to yourself by fine-scanning an image which contains a circle which you know to be perfectly round. Resolve that image into an NTSC Amiga screen resolution after scanning in ADPro and the circle will appear stretched vertically.

By reducing the height of an image to approximately 86 percent of its original size (using ADPro's scaling capabilities), you can produce images with an accurate aspect ratio for NTSC screens. (Since the actual aspect ratio of a given screen will vary from monitor to monitor, the figure of reducing an image's height by 14 percent is only approximate. In many cases, a height reduction of 13, 12, 11, or 10 percent produces more accurate results. Also, PAL video is much closer to square than NTSC. Therefore, PAL screens may not require adjustment at all).

ADPro provides a powerful scaling feature which allows you to correct for the difference in pixel aspects between the scanner and your NTSC monitor. This requires you to fine scan a slightly taller (in number of pixels) area than your intended final screen size, and use ADPro's scaling feature to reduce your 24-bit or 8-bit scanner data to reach the final desired size.

Note that scanning in 1-bit monochrome will produce 8-bit gray data only if the amount of available memory permits. If there isn't enough memory to convert to 8 bit-plane gray, then scaling cannot be performed.

For example: if you wish to scan an image to produce a 640x400

high resolution 16 color picture on your screen, you should set up your Preview Scan for a 640x440 pixel area. Perform your Fine Scan and afterwards, use ADPro's scaling reduction feature to change the 440 pixel height to 400 pixels. Viewing the resulting screen should produce a picture of similar aspect ratio to your original artwork or image.

Quality digital scaling and reductions require massive computations. The computation time of ADPro's scaling facility is proportional to the size of the resulting image and the CPU speed of your Amiga. Also note that scaling permanently alters the data in memory. After an image has been scaled, you would have to rescan in order to get back to the unreduced size.

Refer to your ADPro manual section entitled "Scaling" for more information.

Users of the EPSON\_SCAN\_ToDisk program who do not own ADPro will have to use some other software program to perform the necessary scaling functions, if they wish to create Amiga NTSC video screens whose aspect ratios correctly duplicate the look of their original scanned artwork and images.

## Chapter 4

# Keyboard Hot-Keys

### 4.1 Preview Scan Hot-Keys

The following keys are available as hot-key shortcuts for the buttons in the Preview Scan window. The hot-keys are active **ONLY** when the Preview or Fine Scan windows are in their shrunk state. These keys are not case sensitive unless otherwise noted:

K or k

**Keep aspect**

I or i

**Ignore aspect**

These hot-keys work only when the Preview Scan window is in its shrunk state, achieved by clicking on the Shrink/Expand gadget. The hot-keys permit you to lock or unlock the current width versus height aspect of the Select Box when you need to get at the box's handles which would otherwise be obscured by the expanded Preview Scan window. These keys have no effect on the Fine Scan window.

S or s

**Scan**

This hot-key works only when the Preview Scan window is in its shrunk state. It duplicates the function of the Preview Scan window's **Scan** button. This lets you begin a preview scan and

view the entire Preview Screen at the same time. This key has no effect on the Fine Scan window.

#### **Shift A**

#### **Abort**

This hot-key is initiated by holding down either shift key and depressing the A key while the Preview Scan window is in its shrunken state. Doing so will abort a preview scan in progress as though you had clicked the **Abort** button in the Preview Scan window in its expanded state. This key has no effect on the Fine Scan window.

#### **Shift RETURN**

#### **Accept**

This hot-key is initiated by holding down either shift key and pressing the return key while either the Preview Scan or Fine Scan windows are in their shrunken state. Doing so is the same as clicking the **Accept** button in either window in their expanded states.

## Chapter 5

# Error Messages

The EPSON\_SCAN loader may generate a “not enough memory” message should you attempt a fine scan which will not fit in the available memory. Consult the ADPro documentation and elsewhere in this manual for a discussion on how much memory is required for a given image size.

A memory allocation failure message can also be generated in rare instances in which some very small allocations cannot be made. This sort of failure is not due to image size but rather unusually limited memory availability (and can probably be solved by quitting some other program or closing some other windows).

Both the ADPro loader and the stand-alone version will generate a self-explanatory message if the scanner software cannot make contact with your scanner.

### 5.1 EPSON\_SCAN Error Messages

Listed below are the error messages that might appear when using the loader.

**"Invalid DPI: *b*"**

This message is displayed if you try to specify a DPI that is not supported by or does not make sense for a particular scanner model.

**"Color correction is only valid for color scans."**

This message is displayed if you try to specify one of the color correction options while scanning in grayscale or monochrome mode.

**"Dithering is only valid for monochrome scans."**

This message is displayed if you try to specify one of the dither types while scanning in color or grayscale.

**"Dither type not supported."**

This message is displayed if you try to specify a dither type not available on a particular scanner model.

**"There is no option installed."**

This message is displayed if you try to control one of the scanner options, such as the Automatic Document Feeder, but no option is currently installed or can be supported.

**"XOffset is out of range."**

This message is displayed if you specify an XOffset value that is invalid (cannot be set) for a particular scanner model.

**"YOffset is out of range."**

Similar to the previous message, this one will tell you if the designated YOffset value is invalid.

**"Width + XOffset is out of range."**

This message is displayed if the values you specify for Width and XOffset are either less than or greater than the allowable scanning area.



#### **"Height + YOffset is out of range."**

This message is displayed if the values you specify for Height and YOffset are either less than or greater than the allowable scanning area.

Listed below are the error messages which have been added to support the Automatic Document Feeder (ADF) and Transparency Unit (TPU) options.

#### **"Paper Empty"**

This message is displayed if you have the ADF option installed and enabled, but no paper is available in the feeder tray.

#### **"Paper Jam"**

This message is displayed if you have the ADF option installed and enabled, but a sheet of paper was too thick to pass through the ADF unit smoothly. Take all proper precautions when removing the jammed sheets from the unit.

#### **"Option Open"**

This message is displayed if you have either the ADF or TPU option installed and enabled, but the unit itself is not available for use. This may happen if the option is not properly installed or seated on the scanner unit.

#### **"Option Error"**

This message is displayed if you have either the ADF or TPU option installed and enabled, but an error, other than the ones defined above, occurred. You should never see this error message, however—one of the more descriptive messages above will appear instead.

## 5.2 EPSON\_SCAN\_ToDisk Error Messages

The EPSON\_SCAN\_ToDisk program may generate the following error messages if certain conditions are met.

“The file: *filename* exists. Overwrite it?”

This message is displayed in its own requester when you try to overwrite an existing disk file. If you answer the error message's requester by clicking its **OK** button it will delete the existing file and continue with the scan. If you answer the error message's requester by clicking its **Cancel** button it will return you to the file requester to choose a different file name.

“Only *some\_whole\_number* lines were scanned.  
Do you wish to delete the file?”

This message is displayed in its own requester when you abort a scan-to-disk in progress. The scan file is closed. The requester gives you the option of deleting the file, or leaving it.

“Error Opening File”

This message is displayed in its own requester if the program can't open the file you select for some reason. Cancel the requester with its button and erase the bad file name and then re-enter a valid file name.

“Error During Save. File Deleted”

This message is displayed in its own requester whenever there's a DOS error during a write-to-disk attempt. The partially written file is deleted when you cancel this requester. The most likely cause of this error message is a disk filling up while being written to. Select a disk or drive with more available free space and try your scan again.

“Error During Seek. File Deleted”

Under normal circumstances you should never see this error message. It will be displayed if the program is unable to perform a DOS seek for some reason. Possible causes for this error message could be foreign file systems or handlers. For example, you can't seek on **SER:** or **PIPE:.** Be sure you are entering a proper AmigaDOS disk drive or device path and name into the file requester.



## Chapter 6

# Controlling the Scanner From ARexx

If you own ADPro, the scanner can be controlled completely from ARexx. Choose the loader as you would any other format with the LFORMAT command. Then, the following syntax may be used to perform a scan:

Syntax: LFORMAT "EPSON\_SCAN"  
LOAD "XXX" *scanner\_opts* *comp\_opts*

The *scanner\_opts* are the following (listed in any order):

DPI *r*

Set the resolution at which the scan will occur.

GUI Equivalent: **Resolution** rocker switch.

Constraints: *r* = one of the standard resolutions of the scanner.

Required: Yes

## OFFSET *xoff yoff*

Set the left and top edge of the area to be scanned.  
The unit of measure is defined by the *units* option  
(see below).

GUI Equivalent: **OffsetX** and **OffsetY**  
input fields.  
Constraints:  $0.0 \leq xoff$ ;  
 $0.0 \leq yoff$   
Required: Yes

## SIZE *width height*

Set the width and height of the area to be scanned.  
The unit of measure is defined by the *units* option  
(see below).

GUI Equivalent: **Width** and **Height**  
input fields.  
Constraints:  $0.0 \leq width$ ;  
 $0.0 \leq height$   
Required: Yes

## ("COLOR" | "GRAY" | "MONO")

Set the type of scan to perform.

GUI Equivalent: **Scan Mode** rocker switch.  
Constraints: None  
Required: Yes

## (INCHES | CENTIMETERS | PIXELS)

Set the unit of measure for the OFFSET and SIZE  
options. This *units* option is used by the SIZE and  
OFFSET options.

GUI Equivalent: **Units** rocker switch.  
Constraints: None  
Required: No; default = INCHES

("CRT" | "DMP" | "TTP" | "IJP")

Set the color correction types appropriate for CRT display, dot matrix printer, thermal transfer printer, or ink jet printer, respectively. These color correction types are implemented by the scanner itself.

GUI Equivalent: **Color Correction** rocker switch.

Constraints: None

Required: Only if "COLOR" is specified  
as the scan type;  
default = CRT

("NONE" | "HARD" | "SOFT" | "NETSCREEN" | "BAYER" | "SPIRAL"  
| "44NET" | "84NET")

Set the monochrome halftoning mode.

GUI Equivalent: **Halftoning** rocker switch.

Constraints: None

Required: Only if "MONO" is specified  
as the scan type;  
default = NONE

("CRTA" | "CRTB" | "PRINTERA" | "PRINTERB" | "PRINTERC")

Set the scanner's own internal gamma correction capability.

GUI Equivalent: **Gamma** rocker switch.

Constraints: None

Required: No; default = CRTA

"ZOOM"  $z$

Set the amount of reduction or enlargement.

GUI Equivalent: **Zoom** value.

Constraints:  $50 \leq z \leq 200$

Required: No

### "BRIGHTNESS" *b*

Set the scanner's brightness controls to one of its seven preset values.

GUI Equivalent: **Brightness** value.

Constraints:  $-3 \leq b \leq 3$ ; Remember that negative numbers need to be quoted in ARexx.

Required: No

### "SHARPNESS" *s*

Set the scanner's sharpness controls to one of its five preset values.

GUI Equivalent: **Sharpness** value.

Constraints:  $-2 \leq s \leq 2$ ; Remember that negative numbers need to be quoted in ARexx.

Required: No

### "OPTIONENABLED"

Enable the ADF or TPU option, if installed.

GUI Equivalent: **Enabled ADF/TPU** setting.

Constraints: None

Required: No

The *comp\_opts* are composition options. See your ADPro or MorphPlus manual for more information.

The following two commands will scan exactly the same area:

```
LOAD "XXX" DPI 100 PIXELS
```

```
OFFSET 100 100 SIZE 200 200 "COLOR" "CRT"
```

```
LOAD "XXX" DPI 100 INCHES
```

```
OFFSET 1 1 SIZE 2 2 "COLOR" "CRT"
```



## **Chapter 7**

# **Operational Hints and Tips**

### **7.1 The User's Manual**

We strongly advise you to familiarize yourself with the sections of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 User's Manual which pertain to general scanner theory and operation, and care and feeding of your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000. Those parts of the manual which refer to using the scanner with other brands and models of computers may be ignored, but the manual provides valuable information on general scanning techniques as well as describing the mechanics of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 itself.

### **7.2 The DIP Switches**

There is a small cover on the front panel of the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 which conceals two banks of DIP switches. Unless you plan to use the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000's "direct print" features, you should always leave these switches covered

and not change their settings. Changing the DIP switch settings could adversely affect scanner operation when using your ASDG loader software. If you suspect someone has altered the DIP switch settings accidentally, refer to page D-4 of the User's Manual for the original factory settings. Any changes you make to the DIP switch settings are effective **ONLY** when you turn the scanner off and then back on.

## 7.3 Direct Printing

The User's Manual completely describes all aspects of connecting a printer directly to your ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 and using the combination together for color copying. Refer to the User's Manual to learn how to use the Direct Print features.

## 7.4 Noises While Scanning

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 operates very quietly, however in a quiet environment you will hear it making whirring noises during Preview or Fine scans. The sounds the scanner makes can and will change in pitch depending on the amount of the bed being scanned and the resolution being used. This is totally normal.

The scanner's carriage (the mechanism inside the scanner which holds the lamps and is driven back and forth by a toothed belt and motor assembly) stops and starts its travel at different times and at different speeds depending on many factors such as whether you are performing a 24-bit color scan versus an 8-bit grayscale scan, the DPI resolution being used, the size and shape of the bed area being scanned, and the CPU speed of your Amiga. An accelerated Amiga can accept data from the scanner faster than a stock 68000 Amiga can, which results in faster scans.

## **7.5 The Ready Light and Software Lockup**

Attempting to perform a scan after you have just powered on the scanner but before the ready light is lit may result in a software malfunction. The scanner must be ready to accept commands from the computer so the two can operate as a team. In a normal room environment, the scanner's warm up period after power up is very short, so please do not attempt any scanning operations until the ready light glows green.

## **7.6 Software Performance and Accelerated Amigas**

Different model Amigas come equipped with different central processing units (CPUs), either a 68000, 68020, or 68030. Performance of the EPSON\_SCAN loader or EPSON\_SCAN\_ToDisk will vary depending on the speed of your processor, just like almost all other software you own and use. The scanner is capable of transmitting to the computer massive amounts of data in very short periods of time. While this software will perform perfectly well on an unaccelerated 68000-equipped Amiga, those who use faster machines will experience higher performance.

On machines with slower processors you may periodically notice an effect on the screen while performing a preview or fine scan. This effect will manifest itself as a slight screen wiggle or jump. Again, this is perfectly normal and is usually not visible on an Amiga equipped with a 68030 or faster processor. If you see this effect, it is nothing to be alarmed about and in no way affects the quality of your scans.

## **7.7 Multitasking the Loader or EPSON\_SCAN\_ToDisk**

Both versions of the software multitask. You may run them while other programs are running. Again, due to the massive amounts

of data being transferred from the scanner to the computer, and the speed at which this data moves, some warnings are in order.

Multitasking the EPSON\_SCAN software while using a modem connected to your serial port may cause some serial port data to be lost during the actual preview or fine scan operations while the scanner's carriage is in motion. The solution to this problem is simply to avoid it. Even the fastest Amiga has its limits. Don't download files from an online service while performing scans. Avoid the use of CPU-intensive tasks while using the scanner. You need not take a complete "hands off" attitude towards scanning but rather you should appreciate the amount of computing power required by the scanner loader and how it can affect other running programs.

## **7.8 EPSON\_SCAN\_ToDisk: Disk Capacity and Disk Drive Speed**

If you use the EPSON\_SCAN\_ToDisk program to scan directly to a disk, we strongly suggest you use a hard disk or large capacity removable media device as your destination. It's trivial to select an area and resolution to scan which will completely fill a standard 3.5" Amiga floppy disk with just one scanned image. Of course if you have a large amount of free memory at the time you can scan to a RAM: based disk and then use a program such as Quarterback from New Horizons Software to write a larger-than-floppy-size file to multiple floppy disks for storage.

EPSON\_SCAN\_ToDisk will require some experimentation on your part to determine just how much disk space a scan will occupy. There is no exact equation to determine the space required. As EPSON\_SCAN\_ToDisk scans, data is run-length compressed as it is written to disk in an IFF file. The number of colors, and how they are laid out on your artwork directly affects the size of the final disk file.

As an demonstration of this, run the EPSON\_SCAN\_ToDisk program. Close the scanner's document cover without putting any artwork on the glass. You can scan the white inside liner of the document cover itself. Select a full bed scan at 50 DPI. Note that the software has calculated a 24- bit scan memory require-

ment of about one million bytes. Accept the scan and the named file will be written to disk. When the scan has finished, press the **Accept** button in the Fine Scan window again. The file requester will appear again but this time simply click its **GET DIR** button. Check the size of the file you just scanned to disk. It will be barely 100,000 bytes if even that large.

Repeat this experiment but for the second trial, put a full 8.5" x 11" color picture face down on the glass. Try a magazine cover or something similar—an image with many different colors. Perform the same-sized scan at the same DPI setting and when done, check the new file's size as you did before. Even though you scanned the same amount of real estate at the same resolution, the file's size will be some much larger number of bytes than the file you created by scanning the white inside area of the document cover.

There is no way to predict exactly how large this second file will be. However, a scan-to-disk will always create a file that is some number of bytes smaller than the memory size shown in the Fine Scan window.

## 7.9 Scanning For Video Uses vs. Print Uses

The ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 will be used primarily for two distinctly different missions: scanning imagery for video (screen) purposes, and scanning imagery for print (paper) purposes. Whichever type of user you are, you find the EPSON\_SCAN software interface perfectly suited to either.

Video users can quickly set up a scan to fit a particular Amiga screen size, such as 736x480 full overscan interlaced hi-res or 320x200 low res, since the Preview and Fine Scan windows both display the width and height dimensions of a scan in pixels and video users deal with images in terms of pixels.

Print users, those using the ES-300C/ES-600C/ES-800C/GT-6000/GT-6500/GT-8000 to scan imagery for desktop publishing, books, newsletters, and etc., will usually have a need to fill a

“hole” on a page with some kind of image. They will appreciate the software’s ability to heed their requirements and scan down to an accuracy of  $\frac{1}{10000}$  of an inch or centimeter.

The user interface of the EPSON\_SCAN and EPSON\_SCAN\_ToDisk have been designed with both types of end users in mind.



